

# PATENT ABSTRACTS OF JAPAN

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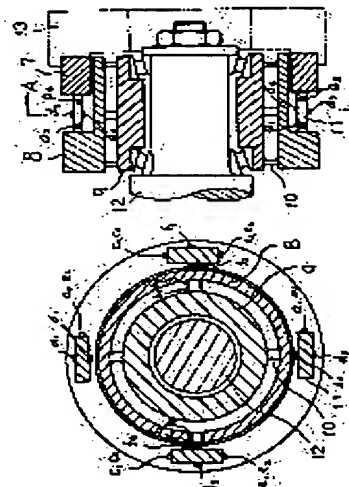
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## (54) AXLE-LOAD MEASURING BALANCE

### (57)Abstract:

**PURPOSE:** To improve test efficiency and accuracy, by providing an inner tube of a balance, its outer tube, lateral-force measuring beams, five-component measuring beams, which are protruded from the outer tube, a ring shaped end plate, and strain gages, and forming the parts other than the strain gages by cutting a metal lump.

**CONSTITUTION:** An inner tube 9 of a balance is attached to an axle 12 coaxially so as to surround the one end part of the axle 12. An outer tube 8 of the balance is arranged coaxially with the inner tube 9 so as to surround the inner tube 9. The inner tube 9 and the outer tube 8 are connected by lateral-force measuring beams 10. Five-component measuring beams 11 are protruded from the end surface of the outer tube 8. The end parts of the beams are mutually linked. The beams are arranged coaxially. A ring shaped end plate 7 is attached to a housing 13, which is linked to the other axle (not shown). Strain gages a1Wa4, b1Wb4, c1Wc4, and d1Wd4 are stuck to the beams 10 and 11, and a load acted on the balance is converted into an electric quantity. The inner and outer tubes 9 and 8, the beams 10 and 11, and the end plate 7 are cut out of one metal lump.



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